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PATENT DEPARTMENT
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EXAMINER

BALSIS, SHAY L

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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1744

DATE MAILED: 12/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/673,065

Applicant(s)

HUANG, CHEN-SHEN

Examiner

Shay L. Balsis

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/26/03.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5-17, 19-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Rabinowitz (USPN 5175901).

Rabinowitz teaches a toothbrush (and a corresponding method of making a toothbrush) comprising an arced tray have a base (27b) and sidewalls (27a, 27c). A first longitudinal edge of each sidewall is perpendicularly coupled to opposing longitudinal edge of the base to define a channel, which receives teeth therein. There are flexible flanges (bristles attached to sidewalls) perpendicularly coupled to the sidewalls that extend over a portion of the channel. A first end (end which handle is attached to) of the channel has a width smaller than a second end of the channel (free ends of the toothbrush). There is a handle (78) coupled to the tray opposite the channel.

With regards to claims 2 and 16, the arced tray is a first arced tray and further comprising a second arced tray having a curvature opposite the curvature of the first arced tray. The outer faces of the bases are coupled together to form a single unit (figure 12).

With regards to claims 3 and 17, there are flexible protuberances (bristles on the base) extending into the channel.

With regards to claims 5 and 19, the protuberances are located proximate the second width of the channel.

Art Unit: 1744

With regards to claims 6-7 and 20-21, the arced tray is flexible and made from a silicone material (col. 4, lines 19-22).

With regards to claims 8 and 22, the flanges extend a portion of the length of the tray.

With regards to claims 9 and 23, the channel is tapered from the first end to the second end (as shown by the change in width from the first end to the second end in figure 3).

With regards to claims 10 and 24, the handle is coupled to the first end of the channel (figure 11).

With regards to claims 11 and 25, the handle is perpendicularly coupled to a neck (72, 74) coupled to the side of the tray.

With regards to claims 12 and 26, the curvature of the arced tray is coplanar to the length of the handle (figure 11)

With regards to claims 13 and 27, the arced tray has two foci (figure 3) since it is not a continuous arc shape.

With regards to claims 14 and 28, the portions of the flange proximate the second end comprise curvatures, which conform to the side surface of the teeth (figures 6-8—notice how the second end has a wider opening to conform to the teeth and therefore, the bristles are curved outwardly).

Claims 1, 6, 8-15, 20, 22-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Levitt (USPN 5293880).

Levitt teaches a toothbrush (and a corresponding method of making a toothbrush) comprising an arced tray have a base (19) and sidewalls (15, 17). A first longitudinal edge of each sidewall is perpendicularly coupled to opposing longitudinal edge of the base to define a channel, which receives teeth therein. There are flexible flanges (27-1) perpendicularly coupled to the sidewalls that

Art Unit: 1744

extend over a portion of the channel. A first end (end which handle is attached to) of the channel has a width smaller than a second end of the channel (free ends of the toothbrush). There is a handle (43) coupled to the tray opposite the channel.

With regards to claims 6 and 20, the arced tray is flexible material (col. 5, lines 33-38).

With regards to claims 8 and 22, the flanges extend a portion of the length of the tray (figure 1).

With regards to claims 9 and 23, the channel is tapered from the first end to the second end (as shown by the change in width from the first end to the second end in figure 2).

With regards to claims 10 and 24, the handle is coupled to the first end of the channel (figure 1).

With regards to claims 11 and 25, the handle is perpendicularly coupled to a neck (part of handle closest to first end) coupled to the side of the tray.

With regards to claims 12 and 26, the curvature of the arced tray is coplanar to the length of the handle (figure 1 and 2)

With regards to claims 13 and 27, the arced tray has two foci (figure 2) since it is not a continuous arc shape.

With regards to claims 14 and 28, the portions of the flange proximate the second end comprise curvatures, which conform to the side surface of the teeth (figures 3a-3f--notice how the second end has a wider opening to conform to the teeth and therefore, the shape of the flange changed as it gets closer to the second end).

Claims 1, 2 6, 8-16, 20, 22-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Morris (USPN 2249721).

Art Unit: 1744

Morris teaches a toothbrush (and a corresponding method of making a toothbrush) comprising an arced tray have a base (21) and sidewalls (12, 13). A first longitudinal edge of each sidewall is perpendicularly coupled to opposing longitudinal edge of the base to define a channel, which receives teeth therein. There are flexible flanges (14, 15) perpendicularly coupled to the sidewalls that extend over a portion of the channel. A first end (end which handle is attached to) of the channel has a width smaller than a second end of the channel (free end of the toothbrush). There is a handle (11) coupled to the tray opposite the channel.

With regards to claims 6 and 20, the arced tray is flexible material (col. 2, lines 48-50).

With regards to claims 8 and 22, the flanges extend a portion of the length of the tray (figure 1).

With regards to claims 9 and 23, the channel is tapered from the first end to the second end (as shown by the change in width from the first end to the second end in figure 2).

With regards to claims 10 and 24, the handle is coupled to the first end of the channel (figure 1).

With regards to claims 11 and 25, the handle is perpendicularly coupled to a neck (part of handle closest to first end) coupled to the side of the tray.

With regards to claims 12 and 26, the curvature of the arced tray is coplanar to the length of the handle (figure 1 and 2)

With regards to claims 13 and 27, the arced tray has two foci (figure 1) since it is not a continuous arc shape.

With regards to claims 14 and 28, the portions of the flange proximate the second end comprise curvatures, which conform to the side surface of the teeth (figures 1--notice how the second

Art Unit: 1744

end has a wider opening to conform to the teeth and therefore, the shape of the flange changed as it gets closer to the second end).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bourke (USPN 6153840) in view of Kelly et al. (USPN 4237574).

Bourke teaches a toothbrush (and a corresponding method of making a toothbrush) comprising an arced tray have a base (horizontal section on figure 5) and sidewalls (24, 30). A first longitudinal edge of each sidewall is perpendicularly coupled to opposing longitudinal edge of the base to define a channel, which receives teeth therein. There are flexible flanges (bristles attached to sidewalls) perpendicularly coupled to the sidewalls that extend over a portion of the channel. A first end (end which is shown as 24 on figure 1) of the channel has a width smaller than a second end of the channel (free ends of the toothbrush).

With regards to claims 2 and 16, the arced tray is a first arced tray and further comprising a second arced tray having a curvature opposite the curvature of the first arced tray. The outer faces of the bases are coupled together to form a single unit (figures 4-7).

With regards to claims 3 and 17, there are flexible protuberances (bristles on the base) extending into the channel.

With regards to claims 4 and 18, the protuberances are integrally formed with the base (figures 4-7)

Art Unit: 1744

With regards to claims 5 and 19, the protuberances are located proximate the second width of the channel.

With regards to claims 6-7 and 20-21, the arced tray is flexible and made from a silicone material (col. 2, lines 60-62).

With regards to claims 8 and 22, the flanges extend a portion of the length of the tray.

With regards to claims 9 and 23, the channel is tapered from the first end to the second end (as shown by the change in width from the first end to the second end in figure 2).

With regards to claims 13 and 27, the arced tray has two foci (figure 2) since it is not a continuous arc shape.

With regards to claims 14 and 28, the portions of the flange proximate the second end comprise curvatures, which conform to the side surface of the teeth (figures 5-7—notice how the second end has a wider opening to conform to the teeth and therefore, the bristles are curved outwardly).

Bourke teaches all the essential elements of the claimed invention however fail to teach that a handle is attached to the first end of the tray. Kelly teaches a similar tooth cleaning apparatus comprising a handle attached to a first end of the tray (17). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bourke's invention so as to incorporate a handle on the first end of the tray as taught by Kelly so that handle can help to facilitate the handling, storage and the insertion and removal of the brush from a users mouth (col. 7, lines 30-34).

Claims 1-6, 8-13, 15-20 and 22-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lai (USPN 5615443) in view of Levenson (USPN 3109192).

Art Unit: 1744

Lai teaches a toothbrush (and a corresponding method of making a toothbrush) comprising an arced tray have a base (horizontal section on figure 5) and sidewalls (vertical sections on figure 5). A first longitudinal edge of each sidewall is perpendicularly coupled to opposing longitudinal edge of the base to define a channel, which receives teeth therein. There are flexible flanges (bristles attached to sidewalls, 14) perpendicularly coupled to the sidewalls that extend over a portion of the channel. The toothbrush comprises a first end (end which handle is attached to) of the channel and a second end of the channel (free end of the toothbrush). There is a handle (2) coupled to the tray opposite the channel.

With regards to claims 2 and 16, the arced tray is a first arced tray and further comprising a second arced tray having a curvature opposite the curvature of the first arced tray. The outer faces of the bases are coupled together to form a single unit (figures 5).

With regards to claims 3 and 17, there are flexible protuberances (bristles on the base, 13) extending into the channel.

With regards to claims 4 and 18, the protuberances are integrally formed with the base (figures 5)

With regards to claims 5 and 19, the protuberances are located proximate the second width of the channel.

With regards to claims 6 and 20, the arced tray is flexible material (col. 1, lines 27-31).

With regards to claims 8 and 22, the flanges extend a portion of the length of the tray.

With regards to claims 10 and 24, the handle is coupled to the first end of the channel (figure 1).

With regards to claims 11 and 25, the handle is perpendicularly coupled to a neck (part of handle closest to first end, 22, 22') coupled to the side of the tray.

Art Unit: 1744

With regards to claims 12 and 26, the curvature of the arced tray is coplanar to the length of the handle (figure 1)

With regards to claims 13 and 27, the arced tray has two foci (figure 3) since it is not a continuous arc shape.

Lai teaches all the essential elements of the claimed invention however fail to teach that a the first end of the channel is narrower than the second end of the channel. Levenson teaches a similar tooth cleaning apparatus comprising a channel that widens from a first end to a second end (figure 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lai's tray so that it is wider at the second end than at the first end as taught by Levenson so that the toothbrush would conform to the shape of the human denture (col. 2, lines 36-50).

Claims 7 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Levitt or Morris or Lai in view of Levenson all in view of Bourke.

Levitt, Morris or Lai in view of Levenson both teach all the essential elements of the claimed invention however fail to teach that the toothbrush is made from a silicone material. Bourke teaches a toothbrush with a tray made from a silicone material (col. 2, lines 60-62). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Levitt and Morris and Lai in view of Levenson so that they are made from silicone as taught by Bourke, since it has been held within the general skill of a worker in the art to select a know material on the basis of its suitability for the intended use as a matter of obvious engineering choice. *In re Leshin*, 125 USPQ 416.

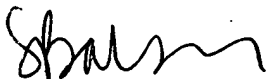
Art Unit: 1744

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shay L. Balsis whose telephone number is 571-272-1268. The examiner can normally be reached on 7:30-5:00 M-Th, alternating F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SLb
12/8/05



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